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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/051,859	01/15/2002	Hardayal Singh Gill	SJO9-2001-0007US1	1622

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INTELLECTUAL PROPERTY LAW OFFICE
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EXAMINER

OMETZ, DAVID LOUIS

ART UNIT PAPER NUMBER

2653

DATE MAILED: 12/17/2003

Handwritten number 9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/051,859

Applicant(s)

GILL, HARDAYAL SINGH

Examiner

David L. Ometz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6, 10-14, 18-20, 23 and 27-32 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 7-9, 15-17, 21, 22, 24-26 and 33-35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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1. A replacement drawing sheet was received on 10/6/03. This drawing is approved by the examiner.
2. Claims 3, 11, 20, 28 are objected to because of the following informalities: in claim 3, line 4, "said first" should be changed to --a first--; in claim 11, line 3, "a second" should be changed to --said second--; in claim 20, line 4, "said first" should be changed to --a first--; in claim 28, line 3, "a second" should be changed to --said second--. Appropriate correction is required.
3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3, 6, 10-14, 18-20, 23, 27-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Carey et al (US Pat 6266218).

As per claims 1, 2, 3, 6, 10, 18, 19, 20, 23, 27, 30-32, Carey et al shows a spin valve MR head in figure 10 that has: a free magnetic layer 78 with a planar upper surface that extends across the central and end regions of the free layer; two anti-parallel coupled magnetic layers 84/96 on the end regions of free layer 78 (including being on the planar upper surface of the free layer); nonmagnetic Ru layer 98; magnetic seed layer 86 disposed upon the upper planar surface of the end regions of the free layer 78 with a first one 84 of the two magnetic layers disposed upon the seed layer 86; the net biasing magnetic field is in the same direction as the free layer magnetization.

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As per claims 11, 12, 28, and 29, Carey et al sets forth in col. 4, lines 15-21 that when CoPtCr is used, then a third and fourth magnetic layer (e.g. Co, with CoFe as an inherent variant of Co based alloys) is used as a sub-layer to the anti-parallel magnetic layers.

As per claims 13 and 14, Carey et al shows a spin valve MR head in figure 10 that has: a free magnetic layer 78 with a planar central portion and two outwardly disposed planar end regions (i.e. the two outer sloping sides of the free layer 78); a magnetic seed layer 86 disposed upon the respective two planar end regions of the free layer 78; two anti-parallel coupled magnetic layers 84/96 on the end regions of free layer 78; nonmagnetic Ru layer 98; a first one 84 of the two magnetic layers disposed upon the seed layer 86; and the net biasing magnetic field is in the same direction as the free layer magnetization.

5. Claims 4, 5, 7-9, 15, 16, 17, 21, 22, 24-26, 33-35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Applicant's arguments filed 10/6/03 and attached to paper number 8 have been fully considered but they are not persuasive.

Applicant asserts on page 12 that "Turning now to Applicant's independent claims 1, 18 and 30, a significant distinguishing limitation in these claims from the teachings of Carey is that Applicant's antiparallel coupled magnetic layer structure is fabricated **directly upon** (emphasis added) the upper surface of the end portions of the free magnetic layer." However, it is noted by the examiner that the features upon which applicant relies (i.e., "directly upon") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26

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USPQ2d 1057 (Fed. Cir. 1993). Again, as broadly claimed, a layer that is “upon” another layer need not be “directly upon” the other layer, but may have intervening layers there between.

Secondly, with regard to the placement of the magnetic seed layer 86 of Carey et al, this layer is “directly upon” the two sloped planer end sides of the free layer 78 (see fig. 10) while magnetic seed layer 86 is also “upon” the upper planar surface of the free layer 78 with interceding layers 82/88 there between.

7. Applicant's amendment necessitated the modified ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David L. Ometz whose telephone number is (703) 308-1296. The examiner can normally be reached on M-W, 6:00-4:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (703) 305-6137. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4750.

A handwritten signature in black ink, appearing to read 'David L. Ometz', with a long horizontal stroke extending to the right.

David L. Ometz
Primary Examiner
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DLO
December 16, 2003